

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appl. No. 09/367,642

C1 (A) supposing that the straight line between the elution starting point and the elution end point on a chromatogram obtained by gel permeation chromatography is P_{baseL} , the total peak area above P_{baseL} is P_{area} , the height of the top of the maximum peak of refractive index: P_{top} , with respect to P_{baseL} is P_{topH} , and the peak area between the point at which the height of the elution curve from the elution starting point toward P_{top} , with respect to P_{baseL} is $1/5$ of P_{topH} and the point at which the height of the elution curve from P_{top} toward the elution end point, with respect to P_{baseL} is $1/5$ of P_{topH} is P_{areaM} , P_{area} and P_{areaM} satisfy the following relationship:

$$P_{areaM}/P_{area} \geq 0.85$$

; and

(B) when thin layer chromatography is effected by development with a 85 : 15 (by volume) mixture of chloroform and methanol, followed by color development with iodine and measurement of the purity of various spots by a densitometer, main spots having R_f values falling within the range of from 0.2 to 0.8 have a purity of not less than 98%.

4. (Twice Amended) The oxirane derivative according to Claim 1 or Claim 2, wherein R in the general formula (1) is CH_3 .

C2 5. (Twice Amended) A process for the preparation of an oxirane derivative as in Claim 1 or Claim 2, which comprises reacting the compound ROH (in which R represents a C_{1-7} hydrocarbon group) with oxirane at a temperature of 50 to 130°C and in a reaction system containing not more than 5 ppm water.

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6. (Amended) The process for the preparation of an oxirane derivative according to

Claim 5, wherein R in the general formula (1) is CH₃.

7. (Twice Amended) An oxirane derivative represented by the following general formula (2) prepared by aminating or carboxylating an oxirane derivative of formula (1) having a purity as defined in Claim 1 or Claim 2:



wherein R represents a C₁₋₇ hydrocarbon group; n represents an integer of from 20 to 900; X represents a C₁₋₃ hydrocarbon group or -CO(CH₂)_q- (in which q is an integer of from 2 to 4); Y represents an amino group or carboxyl group; and p represents 0 or 1.

8. (Amended) The oxirane derivative according to Claim 3, wherein R in the general formula (1) is CH₃.

9. (amended) A process for the preparation of an oxirane derivative as defined in Claim 3, which comprises reacting the compound ROH (in which R represents a C₁₋₇ hydrocarbon group) with oxirane at a temperature of 50 to 130°C and in a reaction system containing not more than 5 ppm water.

10. (Amended) The process for the preparation of an oxirane derivative according to Claim 9, wherein R in the general formula (1) is CH₃.

11. (Amended) An oxirane derivative represented by the following general formula (2) prepared by aminating or carboxylating an oxirane derivative of formula (1) having a purity as defined in Claim 3:

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wherein R represents a C_{1-7} hydrocarbon group; n represents an integer of from 20 to 900; X represents a C_{1-3} hydrocarbon group or $-\text{CO}(\text{CH}_2)_q-$ (in which q is an integer of from 2 to 4); Y represents an amino group or carboxyl group; and p represents 0 or 1.

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12. (Amended) An oxirane derivative represented by the following general formula (2) prepared by aminating or carboxylating an oxirane derivative of formula (1) having a purity as defined in Claim 4:



wherein R represents a C_{1-7} hydrocarbon group; n represents an integer of from 20 to 900; X represents a C_{1-3} hydrocarbon group or $-\text{CO}(\text{CH}_2)_q-$ (in which q is an integer of from 2 to 4); Y represents an amino group or carboxyl group; and p represents 0 or 1.

13. (Amended) An oxirane derivative represented by the following general formula (2) prepared by aminating or carboxylating an oxirane derivative of formula (1) having a purity as defined in Claim 8:



wherein R represents a C_{1-7} hydrocarbon group; n represents an integer of from 20 to 900; X represents a C_{1-3} hydrocarbon group or $-\text{CO}(\text{CH}_2)_q-$ (in which q is an integer of from 2 to 4); Y represents an amino group or carboxyl group; and p represents 0 or 1.

Claims 14 and 15 are added as follows:

14. (New) A process for the preparation of an oxirane derivative represented by formula (2), which comprises aminating or carboxylating an oxirane derivative of formula (1) having a purity as defined in Claim 1 or Claim 2:



wherein R represents a C_{1-7} hydrocarbon group; n represents an integer of from 20 to 900; X represents a C_{1-3} hydrocarbon group or $-\text{CO}(\text{CH}_2)_q-$ (in which q is an integer of from 2 to 4); Y represents an amino group or carboxyl group; and p represents 0 or 1.

15. (New) A process for the preparation of an oxirane derivative represented by formula (2), which comprises aminating or carboxylating an oxirane derivative of formula (1) having a purity as defined in Claim 3:



wherein R represents a C_{1-7} hydrocarbon group; n represents an integer of from 20 to 900; X represents a C_{1-3} hydrocarbon group or $-\text{CO}(\text{CH}_2)_q-$ (in which q is an integer of from 2 to 4); Y represents an amino group or carboxyl group; and p represents 0 or 1.

IN THE ABSTRACT:

Please delete the present Abstract of the Disclosure and replace it with the following new Abstract of the Disclosure.

ABSTRACT OF THE DISCLOSURE

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An oxirane derivative and process for preparation of the same, having a high purity characterized in terms of gel permeation chromatography and thin layer chromatography. The

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oxirane derivative is useful as a starting material for medical purposes, and mainly drug delivery systems.

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